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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Jean-Louis GUERET

Application No.: 10/766,916

Filed: January 30, 2004

Docket No.: 118335

For: A BOX INCLUDING A HINGE HAVING A LOOP ELEMENT AND A HOOK ELEMENT

SUBMISSION OF TRANSLATION OF PROVISIONAL APPLICATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 CFR 1.78 (a)(5), attached is a translation of Provisional Application No. 60/449,608 filed on February 26, 2003. Upon information and belief, the translation is an accurate English translation of the provisional application as filed.

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Attached:
Translation of Provisional Application

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A BOX INCLUDING A HINGE HAVING A LOOP ELEMENT AND A HOOK ELEMENT

5 The present invention relates to boxes, and more particularly but not exclusively to boxes for containing applicators and/or cosmetics.

Such boxes generally comprise a base portion and a lid connected to the base portion by means of a hinge, which hinge may include a metal pin.

10 An object of the invention is to provide a novel box which may be characterizable, in a first aspect of the invention, by the fact that the hinge comprises a first element fixed to the base portion and a second element fixed to the lid, one of the first and second elements being a loop element and the other a hook element. The
15 loops and the hooks are arranged to co-operate mutually.

Loop and hook elements are sold in particular in the form of strips under the trademark Velcro® and are in widespread use as fastener means, the hooks being made, for example, by molding a plastics material, and the
20 loops being formed by a woven or non-woven fabric. The hooks and the loops may co-operate to catch together, with at least some of the hooks becoming engaged in the loops.

The term "hook" should not be understood in a
25 limited sense, and it covers ends having two hooks or an enlarged head. Similarly, the term "loop" should not be interpreted respectively, and it covers loops that are open or closed. Thus, the first and second elements present hooking means of complementary types distributed
30 over their surfaces and suitable for catching together mechanically when they are united.

The invention makes it possible to provide a hinge without it being necessary to use a metal pin, unlike conventional hinges.

35 The invention also makes it possible to provide boxes in which the lid can, if necessary, be completely separated from the base portion, thus making it possible,

for example, to use a plurality of base portions in association with a common lid, which lid may include, for example, a mirror, with the various base portions possibly containing substances presenting different colors and/or natures, and/or different applicators.

5 A single base portion may be used with the lid, but in a variant, a plurality of base portions may be used with the same lid, the base portions being superposable, at least one of the base portions serving as a lid for another base portion underlying it.

Below, the terms "rear", "front", "top", and "bottom" refer to the box when it is observed in the closed state and the hinge is situated further back from the observer, the box being opened initially by causing the lid to tilt upwards and rearwards.

15 Since the base portion presents rear and top faces, the first element may extend over said rear and top faces. Since the lid presents rear and bottom faces, the second element may extend over said rear and bottom faces so as to co-operate with the first element.

20 The box may include at least one third element on the top face of its base portion. The box may include at least one fourth element on the bottom face of the lid and one of the third and fourth elements may be a loop element while the other is a hook element, the third and fourth elements being disposed in such a manner as to catch together when the box is in a closed position.

Since the base portion presents a bottom face, the box may include on said bottom face at least one fifth element, which may be a loop element or a hook element.

30 In a particular embodiment, the fifth element is of a kind complementary to the third element, said fifth element being positioned on the bottom face of the base portion in such a manner as to be capable of catching onto at least one other third element present on an underlying base portion positioned beneath said bottom face. On the bottom face of the base portion, the box

may include at least one sixth element arranged to catch with another first element of an underlying base portion disposed beneath said bottom face. This enables the base portions to be joined together.

5 The first element may comprise at least two distinct portions, in particular two portions disposed close to respective opposite side faces of the base portion. The two distinct portions may be of the same kind or they may be of complementary kinds. The second element may
10 comprise at least two distinct portions disposed on the lid in corresponding manner.

 The first element may present at least one fraction which extends over the top face of the base portion, and said fraction may be of non-constant width, in particular
15 its width may increase on approaching the rear face of the base portion. This can make it easier to open the box, where appropriate.

 The first element may include fractions fixed on surfaces that are substantially plane. The first element
20 may also include at least one fraction fixed on a surface that is not plane, and in particular on a circularly cylindrical surface.

 One of the lid and the base portion may include a tab having a loop element or a hook element and the other
25 one of the lid and the base portion may include a portion for catching onto said tab.

 The first element may extend partially over at least one side face of the base portion and the second element may extend partially over at least one side face of the
30 lid. This enables the lid to be assembled to the side of the base portion after the box has been opened. The first element may extend simultaneously over the top face, the rear face, and at least one side face of the base portion.

35 The base portion and the lid may each present an outline that is rectangular or otherwise, in particular an outline that is circular when observed from above, and

the first and second elements may extend over respective fractions of the circumference of the base portion and of the lid. These fractions may each correspond, for example, to at least one-fourth of the circumference.

5 At least one of the first and second elements may be fixed at least in part in a setback in the base portion or in the lid. It is preferably a hook element which is fixed in a setback of the base portion or the lid, with the depth of the setback possibly being sufficient to
10 ensure that the hooks do not project significantly outside the setback.

 At least one of the base portion and the lid may include a portion in relief arranged to co-operate with a complementary portion in relief on the other one of the
15 lid and the base portion so as to ensure that the lid is always positioned in the same manner relative to the base portion when the box is closed.

 The base portion may also include a portion in relief on its bottom face, said relief being arranged to
20 co-operate with a portion in relief on the top face of another base portion so as to position said other base portion relative to the first.

 The base portion may include a housing for receiving one at least one substance, in particular a substance
25 contained in a dish. In a variant or in addition, the base portion may include a housing receiving at least one applicator. The bottom of said housing may include a hook element or a loop element arranged to hold the applicator.

30 The lid may include a mirror, in particular on its bottom face.

 The invention also provides a base portion or a lid considered in isolation.

 Such a base portion or such a lid may be sold
35 separately, for example in a blister pack, e.g. for the purpose of constituting a refill, or a spare lid, or in order to enable a user who already possesses a box

comprising a lid and a base portion to add at least one second base portion thereto.

The presence of hook elements or loop elements on one of the outside faces of the box can serve, where
5 appropriate, to reduce any risk of the box moving while it is being carried about in a handbag or vanity case, by providing appropriate fastener means therein.

The invention can be better understood on reading the following detailed description of non-limiting
10 embodiments thereof, and on examining the accompanying drawings, in which:

- Figure 1 is a diagrammatic perspective view of an example of a box made in accordance with the invention;
- Figure 2 is a diagrammatic and fragmentary section
15 view on II-II of Figure 1;
- Figure 3 is a view of the underside seen looking along arrow III of Figure 1;
- Figure 4 shows the Figure 1 box in the closed position, with a second base portion under the first;
- 20 - Figure 5 is a diagrammatic view showing the connection between the rear portions of the various base portions of the Figure 4 box;
- Figure 6 shows how the box can be made with a visible clasp;
- 25 - Figure 7 shows a hinge element made in two portions;
- Figure 8 shows a variant embodiment of the rear of the base portion;
- Figure 9 shows how a hinge element can be made of
30 varying width;
- Figure 10 is a highly diagrammatic view showing another way of making the box;
- Figure 11 shows one way of having loop elements or hook elements on at least three faces of the base portion
35 or of the lid;
- Figure 12 shows another variant embodiment of the box;

- Figures 13 and 14 are diagrams showing how two base portions may catch together laterally or longitudinally in another variant embodiment;

5 - Figure 15 shows how a setback 24 can be made with a chamfer;

- Figure 16 shows how a loop element or a hook element can be provided on the bottom of a housing for receiving an applicator;

10 - Figure 17 is a diagrammatic perspective view showing a variant embodiment of a clasp;

- Figure 18 is a diagrammatic perspective view showing a variant embodiment of the box in which the hinge extends over the entire width of the base portion and the lid;

15 - Figure 19 shows one way of positioning the lid on the base portion during initial assembly of the box; and

- Figure 20 shows how at least one of the first and second elements can be made so as to be movable.

20 The box 1 shown in Figure 1 comprises a base portion 2 and a lid 3 hinged to the base portion 2 by means of a hinge comprising two elements 4 and 5 fixed respectively to the base portion 2 and to the lid 3.

25 As can be seen more particularly in Figure 2, the first element 4 extends over the rear and top faces 6 and 7 of the base portion 2, while the second element 5 extends over the rear face 8, the top face, and the bottom face 10 of the lid.

30 In accordance with the invention, one of the elements 4 and 5 is an element having hooks 14 and the other is an element having loops 13. In the example described, it is the first element 4 which is a hook element and the second element 5 which is a loop element, however the opposite situation could exist without going beyond the ambit of the present invention.

35 The hook and loop elements are implemented, for example, as pieces of Velcro® strips of different kinds, stuck respectively to the base portion 2 and to the lid

3. The hook and loop elements could also be fixed to the base portion and to the lid in some other way, for example by heat sealing or by snap-fastening, in particular.

5 In the example described, the fraction 4a of the first element 4 which extends over the top face 7 of the base portion 2 is disposed in a setback 12 thereof which extends in centered manner over substantially one-third of the length of the rear side.

10 The fractions 5a and 5c of the second element 5 which extend respectively over the top face 9 and the bottom face 10 of the lid are disposed in setbacks therein, with only the setback 15 receiving the fraction 5c being visible in Figure 1.

15 The second element 5 presents substantially the same width as the first element 4 and the two elements 4 and 5 can co-operate during opening of the box so as to keep the lid 3 secured to the base portion 2, while enabling it to pivot backwards relative thereto.

20 The lid 3 may also be separated, if so desired, from the base portion 2 by exerting sufficient traction.

 In the example described, the box 1 may be held in the closed position by co-operation between at least one third element 20 present on the base portion 2, and
25 specifically two elements 20, and at least one fourth element 21 secured to the lid 3, and specifically two fourth elements 21.

 In the example shown, the elements 20 are hook elements, while the elements 21 are loop elements, but
30 the opposite configuration could apply without thereby going beyond the ambit of the present invention.

 In the example described, each element 20 occupies a front corner of the base portion 2, being generally triangular in shape when seen from above. The elements
35 21 are placed in the front corners of the lid so as to catch onto the elements 20 when the box is closed.

Means are provided for positioning the lid 3 relative to the base portion 2 when the box 1 is closed.

In the example described, these means comprise firstly a step 24 formed on the base portion 2 so as to
5 define a housing 33, this step 24 being substantially square in outline when the base portion 2 is viewed from above, for example, and a corresponding rib 26 formed on the lid 3, the rib 26 being arranged to engage inside the step 24 when the box 1 is closed.

10 The step 24 may present a flank that is at right angles as shown in Figure 2, or in a variant it may present a chamfer, as shown in Figure 15.

In the example of Figures 1 and 2, the box 1 has only a single base portion 2, however, without going
15 beyond the ambit of the present invention, it is possible to make a box comprising a plurality of base portions, for example two superposed base portions 2 and 2', as shown in Figure 4.

The base portions 2 and 2' can be secured to each
20 other, for example, by providing a fifth element 30, which is a loop element, on the bottom face 26 of the base portion 2, the fifth element being disposed in such a manner as to be capable of catching onto the fraction 4a of the first element 4 of the base portion 2', which
25 may be identical to the base portion 2, as can be seen in Figure 5.

The base portion 2 may present a projecting portion 32 arranged on its bottom face 66 to engage in the housing 33 so as to ensure that the base portions 2 and
30 2' are always positioned in the same manner one on the other. Each base portion 2 or 2' may advantageously include on its bottom face 66, not only the fifth element 30, but also a sixth element 40, e.g. two elements 40, disposed in such a manner as to catch onto the elements
35 20 of the base portion 2' disposed immediately below, as can be seen in Figure 3.

Where appropriate, a clasp 50 may be provided on the front side of the box 1, the clasp comprising, for example, a fixed portion 51 present on the front face 52 of the base portion 2 and a flexible tab 53 fixed via its top end 54 to the front face 55 of the lid 3 and having its bottom end 56 suitable for being superposed on and catching onto the fixed portion 51 when the box is closed. The portions 51 and 53 of the clasp are made, for example, using strips of Velcro®.

10 In the examples of Figures 1 to 6, the base portion 2 has a housing 60 which receives a dish 61, e.g. a metal dish, containing a substance P, e.g. foundation makeup, and the lid 3 has a mirror 63 in its bottom face.

15 It would not go beyond the ambit of the present invention for the lid 3 to have no mirror and for the base portion 2 to present a housing arranged in some other manner, e.g. to receive not a dish containing a substance, but an accessory such as a brush or a flocked applicator, or indeed a plurality of housings containing various substances and/or applicators, which housings may be of a variety of shapes.

20 Figure 16 shows that it is possible to place a hook or loop element 9 on the bottom of the housing for receiving an applicator, which element serves to catch onto the applicator; the applicator may be provided with an applicator element having loops or hooks that are themselves capable of catching onto the element 90. In a variant, an element of complementary kind to the element 90 may be disposed on the applicator, e.g. on its handle.

30 The box may also be made using a different clasp, for example comprising a tab 80 arranged to snap into a corresponding housing 81, as shown in Figure 17.

The hinge connecting the lid 3 to the base portion 2 may be made differently from that which is shown in 35 Figures 1 to 6.

The first and second elements 4 and 5 may extend, for example, over substantially the entire width of the

rear sides of the lid 3 and the base portion 2, as shown in Figure 18.

The first and second elements may each comprise two portions.

5 By way of illustration, Figure 7 shows the rear face 6 of the base portion 2, and in this figure it can be seen that the first element may comprise two portions 4' and 4" situated, for example, close to the side faces of the base portion.

10 In the example described, the portions 4' and 4" are received in respective setbacks 12' and 12" of the base portion 2, which setbacks may be of a depth corresponding substantially to the thickness of the backing to which the loops or the hooks of the element are connected,
15 specifically loops in Figure 7.

 The rear face 6 of the base portion 2 may also be made with a shape that is outwardly convex, and in particular it may carry a rib 70 defining a bulging surface 71, e.g. in the form of half a circular cylinder,
20 having the first element 4 fixed thereon.

 At least one of the first and second hinge elements may be of varying width. By way of example, Figure 9 shows the base portion 2 with a first element 4 that presents width which increases on coming closer to the
25 rear face 6, for example in order to make it easier to open the box. The fraction 4a of the element 4 may be received in a housing 12 of corresponding shape, e.g. having an outline that is substantially trapezoidal in shape.

30 When the first element is made as two portions 4' and 4", and when the second element also comprises two corresponding portions 5' and 5", each of said portions may extend not only over the rear faces of the base portion 2 and the lid 3, and over the top face of the
35 base portion 2 and the bottom face of the lid 3, but also over the side faces of the base portion 2 and of the lid 3, as shown in Figure 10, thus making it possible, for

example, to assemble the base 2 and the lid 3 side by side after the box has been opened.

The loop and hook elements used for assembling a base portion with another base portion or with a lid in at least two directions can also be distinct, as shown in Figure 11.

The base portion and the lid need not be generally in the form of a rectangular parallelepiped, and for example they may be of a shape having an outline when the box is viewed from above that is curvilinear, and in particular oval or circular as shown in Figure 12.

In this figure, it can be seen that the first element 4 can extend over half of the circumference of the base portion 2 and the second element 5 over half of the circumference of the lid 3, for example.

The disposition of the first and second elements enables them to catch together tangentially.

In the example of Figure 10, both of the portions 4' and 4" are loop portions while the portions 5' and 5" are hook portions. In a variant, both of the portions 4' and 4" could be hook portions with the portions 5' and 5" both being loop portions. Furthermore, one of the portions 4' could be a loop portion and the other portion 4" could be a hook portion so as to enable a plurality of base portions to be assembled together side by side as shown in Figure 13, or indeed so as to enable two base portions 2 and 2' to be placed one in line with the other, as shown in Figure 14.

Figure 19 shows how it is possible to position the lid 3 on the base portion 2 during initial assembly thereof. The front edges can be brought into contact with each other, the rib 26 of the lid bearing against the step 24, and then the lid can be pivoted in the direction of the arrow.

At least one of the first and second elements may be movable relative to the corresponding portion of the box.

Thus, for example, the first element may be movable relative to the base portion 2, as shown in Figure 20.

In Figure 20, there can be seen the first element 4 fixed on a roller 95 hinged to the base portion by means of a pin (not shown) extending between two lugs 96 extending the base portion rearwards.

Naturally, the invention is not limited to the embodiments described above and in particular it is possible to combine the characteristics of the various embodiments described with one another.

Throughout the description, including in the claims, the term "comprising a" should be understood as being synonymous with "comprising at least one", unless specified to the contrary.